

CLAIMS

What is claimed is:

1. A power generation system, comprising:
5 an internal combustion engine configured to provide rotational mechanical energy;
a generator configured to receive the rotational mechanical energy and generate electrical power in response to the rotational mechanical energy; and
a fluid medium provided to the internal combustion engine and to the generator
10 for removing thermal energy from the internal combustion engine and from the generator.
2. The system according to claim 1 further comprising a fluid medium system for providing the fluid medium to the internal combustion engine and to the
15 generator.
3. The system according to claim 2 wherein the fluid medium system provides fluid communication between the engine and the generator.
- 20 4. The system according to claim 2 wherein the fluid medium system comprises a first fluid system and a second fluid system, the first fluid system is coupled to and in fluid communication with the engine, the second fluid system is coupled to and in fluid communication with the generator, and the first fluid system comprises a closed system relative the second fluid system.
- 25 5. The system according to claim 1 further comprising a power electronics device configured to modify the electrical power generated by the generator.
6. The system according to claim 5 wherein the fluid medium is provided to
30 the power electronics device for removing thermal energy from the power electronics device.
7. The system according to claim 1 further comprising a gear box coupled between the engine and the generator, the gear box transmitting the rotational
35 mechanical energy between the engine and the generator.

8. The system according to claim 7 wherein the fluid medium is provided to the gear box for removing thermal energy from the gear box.

5 9. The system according to claim 1 wherein the fluid medium comprises a liquid.

10 10. The system according to claim 1 further comprising a shaft coupled between the engine and the generator, the shaft transmitting the rotational mechanical energy between the engine and the generator.

11. The system according to claim 1 further comprising a flywheel coupled between the engine and the generator, the flywheel transmitting the rotational mechanical energy between the engine and the generator.

15 12. The system according to claim 1 further comprising a shaft and a flywheel coupled between the engine and the generator, the flywheel and the shaft providing the rotational mechanical energy between the engine and the generator.

20 13. The system according to claim 1 wherein the generator is supported upon the engine.

14. The system according to claim 1 wherein an entirety of the structure of the generator is supported upon the engine.

25 15. A method for generating power, comprising:
providing a generator;
providing rotational mechanical energy to the generator and producing an output of electrical power in response to the rotational mechanical energy, the electrical power comprising a selectable frequency output; and
30 providing a fluid medium to the generator for removing thermal energy from the generator.

35 16. The method of claim 15 further comprising providing an internal combustion engine to provide the rotational mechanical energy, and wherein an entirety of the structure of the generator is supported upon the engine.

17. The method of claim 16 wherein the fluid medium is provided to the internal combustion engine for removing thermal energy from the engine.

18. The method of claim 15 wherein the output of the electrical power
5 comprises a selectable voltage output.

19. The method of claim 15 further comprising coupling a power electronics device to the generator for selectively modifying the output of the electrical power.

10 20. The method of claim 19 wherein the fluid medium is provided to the power electronics device for removing thermal energy from the power electronics device.